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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

LANGEL, W

ART UNIT

PAPER NUMBER

1754

3

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

362693

Applicant(s)

MILLS

Examiner

Langel

Group Art Unit

1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-12/ is/are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-12/ is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____.

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 2
- ☒ Notice of References Cited, PTO-892
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. § 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. § 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. § 101.

Claim 1 is provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claim 1 of copending Application No. 09/111,003. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ 2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2-85 and 98-101 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting

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as being unpatentable over claims 1-42, 77, 78, 92 and 104-177 of copending application Serial No. 09/111,003. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are species of or obvious variants of these claims.

This is a *provisional* obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-85 and 98-101 are provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claims 1-85 and 98-101 of copending Application No. 09/225,687. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claims 15-23 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-11 of copending application Serial No. 09/110,678. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are identical, broader than, or species of or obvious variants of these claims.

This is a *provisional* obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Claims 50, 76-84, 86-94 and 98-106 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 50, the phrase "M is any element such as" is indefinite. In claims 76-84, it is indefinite as to where the end of the claims lies, since these claims do not end with a period (.). In claims 86 and 87, the phrase "a method of separating a desired isotope from a mixture of isotopes: reacting" is indefinite. The word --comprising-- should be inserted after "isotopes" in this phrase in claims 86 and 87 to avoid this rejection. Also in claim 87, last line, there is no antecedent basis for "the undesired isotope". In claim 102, the term "selected from the group of" is improper Markush terminology. The term --consisting of-- should be inserted after "group" to avoid this rejection. In claims 98-101, it is indefinite as to how these claims would further limit claim 1, since the limitations recited in these claims would be inherent in the compound recited in claim 1. It is also indefinite as to whether claims 99 and 100 require that the compound be statically charged or that it be a magnet or a magnetic computer memory storage material, since claim 99 recites that the compound "can be" statically charged, and claim 100 requires that the compound "may be" useful as a magnet or "may"

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comprise a magnetic computer memory storage material. That is, claims 99 and 100 do not positively recite these properties.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 107-121 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mills et al. '935. No distinction is seen between the process and cell disclosed in Mills et al. '935, and that recited in applicant's claims 107-121. See, for example, the claims in Mills et al. '935.

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35 U.S.C. § 101 REJECTION

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-121 are rejected under 35 U.S.C. § 101 because the disclosed invention is inoperative and therefore lacks credible utility. All the claims recite compounds or methods for making the compounds wherein the hydrogen content H_m of the compound comprises "at least one increased binding energy hydrogen species." Lines 13-21 on page 9 of applicant's specification define "increased binding energy hydrogen species" as a hydrogen species having a binding energy (i) greater than the binding energy of the corresponding ordinary hydrogen species, or (ii) greater than the binding energy of any hydrogen species for which the corresponding ordinary hydrogen species is unstable or is not observed because the ordinary hydrogen species' binding energy is less than thermal energies or is negative." The specification goes on to state on page 9, lines 25-29 that the increased binding energy hydrogen species are formed by reacting one or more hydrino atoms with one or more of an electron, hydrino atom, a compound containing at least one of said increased binding energy hydrogen species, and at least one other atom, molecule, or ion other than an increased binding energy hydrogen species.

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Page 5, lines 24 and 25 of the specification defines "hydrino atom" or "hydrino" as "a hydrogen atom having the binding energy given in Eq.(1), wherein Eq.(1) recites

$$\text{Binding Energy} = \frac{13.6 \text{ eV}}{\left(\frac{1}{p}\right)^2}$$

where p is an integer greater than 1. A "hydrino atom" or "hydrino" would thus constitute a hydrogen atom having new energy states that are below the conventionally accepted ground state energy. An asserted utility would not be considered credible where a person of ordinary skill would consider the assertion to be incredible in view of contemporary knowledge and where the evidence offered by applicant does not counter what contemporary knowledge otherwise suggests. See MPEP § 2107.01. See the attached Appendix which shows the mathematical justification as to why conventional theory and experiment preclude the existence of hydrino atoms. It is emphasized that Endnote 1 of the Appendix shows that Schrodinger's wave equation mandates that the value of "n" (or 1/p) must be a positive integer having the values 1, 2, 3, and so on, and Endnote 5 shows that fractional values for "n" (or 1/p) are also impermissible in light of the Uncertainty Principle. The fourth full paragraph on page 19-14 of Bethe & Salpeter's Quantum Mechanics of One-and Two-Electron Atoms (Plenum Publishing Corporation, New York, 1977) states that

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the "ground state" of hydrogen has $n = 1$. It is clear from the foregoing that fractional values for "n" (or $1/p$) cannot exist according to conventional scientific theories. Once the Patent and Trademark Office shows through scientific reasoning that an invention is inoperative, the burden then shifts to applicant to provide satisfactory evidence of operability of the invention. Newman v. Quigg, 877 F. 2d 1575, 11 USPQ 2d 1340 (Fed. Cir. 1989).

35 U.S.C. § 112 REJECTION

Claims 1-121 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not enable one of ordinary skill in the art to make or use a "hydrino hydride ion", in that it would require undue experimentation to do so. Factors to be considered in determining whether a disclosure would require undue experimentation include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

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In re Wands, 858 F. 2d 731, 737, 8 USPQ 2d 1400, 1404 (Fed. Cir. 1988). Each of these factors outlined in Wands will be addressed as to their relevance to the lack of enablement for applicant's claims.

Factor (1) The Quantity of Experimentation Necessary

Pages 85-89 of applicant's specification show that hydrino hydride was prepared during the electrolysis of an aqueous solution of K_2CO_3 corresponding to the catalyst K^+/K^+ . However, U.S. Patent 4,337,126 (Gilligan, III et al.) (newly cited) is evidence that the electrolysis of potassium carbonate results in the production of potassium hydroxide and CO_2 . (See especially column 6, lines 13-47 of Gilligan, III et al.) Pages 89-91 of the specification disclose various methods to isolate and purify the increased binding energy hydrogen compounds formed in the hydride reactor. Pages 89-91 disclose how increased binding energy hydrogen compounds may be isolated from the electrolyte of a K_2CO_3 electrolytic cell. However, there are not sufficient details of the electrolysis conditions set forth on pages 85-89 which would allow one to isolate and purify the increased binding energy hydrogen compounds by the procedures set forth on pages 89-91, rather than simply produce potassium hydroxide and CO_2 by the potassium carbonate electrolysis, as shown by Gilligan, III et al. In this regard, the specification must teach one of

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ordinary skill in the art how to make and use the invention, and not simply how to direct one how to find out how to make and use for himself. In re Gardner, 427 F. 2d 786, 789, 166 USPQ 138, 141 (CCPA 1970).

Factor (2) The Amount of Direction or Guidance Presented

The direction or guidance provided in the specification is found on pages 85-102, and is insufficient for the same reasons given hereinbefore with respect to factor (1). In short, the amount of direction or guidance is insufficient, as it is seen from Gilligan, III et al. that electrolysis of potassium carbonate would be expected to simply result in the production of potassium hydroxide and CO_2 .

Factor (3) The Presence or Absence of Working Examples

The specification contains, on pages 85-199, examples of methods for forming and identifying hydrino hydride ions, which are a type of "increased binding energy" hydrogen species as recited in applicant's claims. It is unclear however whether applicant has actually formed and identified the variously recited species, since the Examples are directed to the electrolysis of aqueous K_2CO_3 , which would, as stated above, produce KOH and CO_2 . The present examples are thus not considered to be working examples.

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Factor (4) The Nature of the Invention

The scientific community has held the belief for decades that hydrogen cannot exist below the "ground state" ($n = 1$). (See the reasoning presented hereinbefore with respect to the rejection under 35 U.S.C. § 101 for inoperability and the Appendix.) Accordingly the nature of the invention is such that it would be startling if it were operative, thus requiring greater detail than that found on pages 85-199 of the specification for one of ordinary skill in the art to make and use the claimed invention without undue experimentation. Applicant himself points out that the Mills theory predicts the existence of a previously unknown form of matter: hydrogen atoms and molecules having electrons of lower energy than the conventional "ground" state, called "hydrinos" and "dihydrinos", respectively, where each energy level corresponds to a fractional quantum number. (See the paragraph bridging pages 13 and 14 of R. L. Mills, The Grand Unified Theory of Classical Quantum Mechanics (Black Light Power, Inc., New Jersey, 1999)).

Factor (5) The State of the Prior Art

There appears to be no prior art showing hydrogen with a quantum number below 1, or even any prior art which would suggest that hydrogen with a quantum number below 1 could even exist in theory. The closest prior art to that disclosed in applicant's

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specification (see Gilligan, III et al., for example) show that hydrino hydride ions would not be formed. Also note the attached Appendix. Applicant himself points out that the Mills theory predicts the existence of a previously unknown form of matter: hydrogen atoms and molecules having electrons of lower energy than the conventional "ground" state, called "hydrinos" and "dihydrinos", respectively, where each energy level corresponds to a fractional quantum number. (See the paragraph bridging pages 13 and 14 of R. L. Mills, The Grand Unified Theory of Classical Quantum Mechanics (Black Light Power, Inc., New Jersey, 1999)).

Factor (6) The Relative Skill of Those in the Art

Even the most highly skilled physicists were of the opinion that hydrogen cannot exist below the "ground state" ($n = 1$).

Factor (7) The Predictability or Unpredictability of the Art

It would be most unpredictable that the hydrogen atom could exist below the "ground state" ($n = 1$). (See the reasoning presented hereinbefore with respect to the rejection under 35 U.S.C. § 101 for inoperability and the Appendix.)

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Factor (8) The Breadth of the Claims

The claims require the presence of "at least one increased binding energy hydrogen species." It has been shown hereinbefore with respect to the rejection under 35 U.S.C. § 101 for inoperability that the hydrino atom cannot exist.

Considering all of the above factors, one skilled in the art could not make and/or use the claimed invention without undue experimentation.

Claims 102-106 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not enable one to form the compounds of claim 1 by reacting a hydrino with a source of electrons, H^+ , or increase binding energy hydrogen species, since such a reaction would not form a compound which contains the "other element" as recited in the last line of claim 1. That is, it would appear that the reaction with the hydrino would have to include a reaction with the other element to form such novel compounds.

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Any inquiry concerning this communication should be directed to Wayne A. Langel at telephone number (703) 308-0248.

WAL:cdc

September 11, 2000

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GROUP 110